2: Fortes E-5 (1934-1937) 1945
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found at that spot. Thus, Sielug is an uninhabited part of Zubiuŋ, where clay (*siela*) is abundant near the surface, making it unsuitable for cultivation and therefore a favourite pasture. Nayaberaabo'og ('cattle-poison-grass valley'), the tract of low-lying land renowned as the traditional battle-field of Tongo and Ba'ari, appears to be named after a kind of grass believed to be noxious to cattle. Other such names have a legendary flavour, but the Tallensi, with their characteristic realism, have no myths or legends to account for them. Locality names of this kind are Kumpeɣaləɣat ('Death carries quivers') and Kurbɔk ('Stooping ditch'). Sacred groves (*tɔŋgbana*) often serve as landmarks to identify a locality; e.g. Dooni (at Doo), means the precincts of that *tɔŋgban*, vaguely defined, as are all such localities, by position and not by definite boundaries.

We shall see later how the social structure of a settlement is anchored to a locality. The physical environment is built into the whole edifice of native life. Tale economic pursuits demand an intimate knowledge—unscientific but remarkably efficient at the level of their social organization and technical development—of natural history and topography. Tale leechcraft, on its empirical side, depends on this knowledge; and every prominent and many an inconspicuous feature of the landscape has its meaning and place in native social relations. A great boulder may be the children's playground, or the women's pounding-floor, or a shrine. A hoary baobab tree is not only an amenity and a source of useful products, but also a lineage shrine. A furrow, an outcrop of laterite, or a fringe of grass, may mark the boundary of a farm plot. A shrub, hardly noticeable on the bank of a dry watercourse, is a medicine. In consequence, the natural environment forms a very important aspect of the native's social space. In his own settlement, and especially in his section of the settlement, he knows every rock and tree and almost every tuft of grass, the qualities of the soil, and the ownership of farm plots.

In addition to his own settlement a man usually knows pretty thoroughly the natural environment of neighbouring settlements with which his clan has close social bonds and, more superficially, that of his mother's natal settlement and of settlements in which close extra-clan kin live. The great majority of men, even the younger men who have been abroad for lengthy periods, are all well versed in the geography, the vegetation, and the fauna of the tracts of bush and river-bank on the borders of Taleland, the economic exploitation of which is indispensable for the subsistence of the natives. Every dry season many men and boys have to go out to the nearest bush to cut grass for thatching, rafters for roofing, shafts for their implements, *bayana* (*Bauhinia*, spp.) bark for the rope used in house-building, canes for their bows and reeds for their arrows, tree-stumps for their shrines, and many medicinal roots and leaves. They go hunting in near and distant tracts of bush, so that most adult men are familiar with every hunting bush within a day's march of their settlement; and they go fishing in the pools left in the river-beds during the dry season. Women are as expert as men in these matters. They take part in the big fishing drives, comb the fields for edible herbs, seek out deposits of clay for pottery and gravel for beating floors, explore the neighbouring bush for firewood, for reeds to make sleeping mats, for fruits and edible leaves.

3: Fortes E-5 (1934-1937) 1949
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than the others, all the women must be allocated more or less equal plots for this purpose. Each woman, with the help of her daughters or a daughter-in-law, collects and stores wild herbs and edible leaves, buys condiments and seasonings like salt, pepper, and locust bean balls, sometimes with the proceeds of her own petty trading in the markets, and collects shea nuts for the preparation of shea butter, the most important source of fat and the most prized emollient in the native cuisine, for the use of her own *dug*. If a man gives a penny or twopence to one wife for the purchase of seasonings, he must, either immediately or on subsequent market days, give some money to his other wives for this purpose. If he obtains some meat, he must either distribute it amongst all his wives or give all of it to his senior wife to use or preserve for the benefit of the whole family. Only a wife in childbed is entitled to have extra luxuries, which it is the duty of her husband to provide.

Though each woman cooks for herself with an eye to the feeding of her own children and her husband, in the first place, co-wives are obliged to share food prepared with grain from the common supply. In times of plenty, if all the wives of a man have cooked a meal, each woman dishes out a portion of porridge and the accompanying relish for her husband, a portion for herself and her child or children eating with her, and a smaller portion for each of her co-wives. The husband should taste all the dishes sent in to him by his wives, and should pass on to the older children who do not eat with their mothers the dishes he does not want for himself. In times of scarcity a man's wives may cook in rotation for the whole family. But if a woman has a private supply of grain, obtained by trade or from her own relatives, she is entitled to use it for feeding her own children and the husband only; she need not give anything to her co-wives or their children.

In the production and utilization of food-supplies, as this brief sketch shows, the common interests of the *yi* are distinctly paramount. Co-wives co-operate most harmoniously, both among themselves and with the other women of the household, in this sphere of family life. In the organization of productive labour and of the domestic economy, and in the conventions regulating mutual help in this sphere, the dependence on one another of all the members of a household for their sustenance is constantly emphasized. But the relative autonomy of the *dug* is never wholly submerged. The women do not pool the products of their individual labour and enterprise. They do not pool their utensils, and family quarrels sometimes arise because one woman or one woman's child has borrowed and damaged a utensil belonging to another. They keep their firewood supplies, the accumulation of which is one of their most arduous tasks, jealously separate; and they do the same with vegetables and seasonings. There is sometimes friction between co-wives over the use of the grinding-room. But it is significant of the balance usually maintained between the centrifugal tendencies of the *dug* and the

4: Fortes and Fortes E-5 (1934-1936) 1936
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own family. She may, as an act of grace, give some of this food to her husband or to a co-wife with whom she is on friendly terms; but she is not compelled to do so. A junior householder thus augments the food supply for his own wives and children. If he comes into possession of a large amount of grain by his own exertions he will generally make a present of a small quantity to the head of the unit to which he belongs; but, again, this is an act of goodwill, not an obligation. A kind-hearted head of a compound may occasionally present a meagre dish of grain to the wife of a younger head of a self-supporting unit, if they are obviously on the verge of starvation; otherwise, self-supporting units in the same compound never assist one another with grain, in the ordinary course of events.

There are other more incalculable means by which food is brought into the household and family. Cereals are sometimes obtained during the hunger months by women from their paternal kinsmen. A marriageable daughter, again, means a succession of suitors bringing gifts of money, guinea-fowls, and various other comestibles to her mother. Wild sources of food are fully exploited. Fruits of the shea-tree (*ta'ay: butyrospermum parkii*) save many a family from the worst straits of hunger, as does the pulp of the dawa-dawa (*doo: parkia filicordea*) pods. These trees have an enormous economic value, as will be evident later. The baobab-tree (*to'o: adansonia digitata*) has a fruit with a floury, sweetish pulp which is relished much as sweetmeats are by ourselves, and its leaves are used to make soup. It is generally found as a shade-tree outside a compound, and women readily get permission from the head of the compound to pluck the leaves. Leaves of the local elm (*nuom: celtis integrifolia*) are also used for soup.[1] Some grasses and fungi serve this purpose too, and small children, who are adepts at foraging for themselves, can often be seen out in groups collecting them.

From the table quoted above it will be seen that one man, on the average, supports himself, 1·2 women, and 1·2 children, over the age of infancy—roughly 3·4 people; but it is clear from the sociological outline given above that any such estimates hold only very approximately in view of the many supplementary sources of grain supply,

[1] We have seen elm-trees in *toyhans* (sacred groves) and in the bush (where of course, any one can pluck the leaves) but not as shade trees in front of compounds.

4: Fortes and Fortes E-5 (1934-1936) 1936
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The climate of the Northern Territories of the Gold Coast has two well-marked seasons, a rainy season (*seug*) and a dry season (*sun*). The rainy season is the period of intense agricultural activity and lasts from April to October; the dry season, when agriculture sinks into the background of social interest, from November to March. We shall set out the cycle of agricultural and food economy month by month, beginning with April, the first month of the rains.[1]

PRODUCTIVE CYCLE	FOOD CYCLE
APRIL: First planting-rain fell on March 26, and early millet (*naara*) with some cow-peas and *suri* was planted in the valley settlements. Rain again in mid-April enabled most people to plant early millet, &c. Women sowed their vegetable patches; *naggena*, *hibiscus* (*ma'ana*, *bet* and *beris*), marrow (*wok*—planted by only a few women) and other vegetables. Hoeing begun; but not more than one day in three devoted to agriculture. Communal fishing expeditions.	Food stores very low in average households and being rationed. Many dependent upon supplementary sources of supply. People buying grain abroad for re-sale. Ample food supplies in market and many buying grain. Market-prices average. Children gleaning ground-nuts.[2] Wild fruits—shea (*taamr*), *ximenia americana* (*lieg*) and especially dawa-dawa powder (*dobugm*)—being consumed to stave off hunger.[3]

[1] The Tallensi have a lunar calendar, but we are following the European calendar to simplify the exposition. All dates given refer to 1934.

[2] Ground-nut gleaning (*nyuk*) is a regular pursuit of children, adolescents, and even adults of households with small supplies of ground-nuts. After the ground-nuts have been lifted any one may come and scratch with a hoe for those left in the ground. Thus little groups of boys and girls, from infancy to adolescence, wander about in the fields near their homes scratching with old hoes for the ground-nuts, which they collect and eat. Early in the dry season these ground-nuts are regarded as snacks. When the dry season reaches its end, however, they become scarcer but are searched for more eagerly as a measure to stop the pangs of hunger between one meal and the next, often twenty-four hours later.

[3] Shea fruits are collected by the women throughout this season, mainly from trees on bush farms belonging to their compound. Dawa-dawa powder is more difficult to come by as the trees are jealously watched by the owners, who are in some areas the chiefs *ex-officio* and in others heads of lineages. Dawa-dawa pods are thus often obtained by gift, purchase, or exchange from the owners, or in the market. Every part of the fruit is of great value—the floury powder is eaten, the seeds collected and turned into *kpolag*, the husks of the pod used to prepare *am*, the liquid with which the walls and floors of compounds are waterproofed.

7:Lynn G-5 (1932-1936) 1937 FE11 Tallensi FE11

241 keep pace with the growth in intensity of conditions. Farming is regarded as a custom and not as a business, with the result that in crop production and in animal husbandry the maximum is left to Nature. It is custom based upon an unsettled past which underlies the economic system.

Diet.

262 264 The diet of the people is largely vegetarian; only after religious sacrifice, or upon a very special occasion, is the flesh of cattle, sheep, goats, donkeys or dogs, eaten, subject to certain taboos. Fowls are not eaten by women, or, in some sections, by first-born male children; they are therefore not generally found in a normal diet; guinea-fowls are eaten, however, by all who can afford them. The big meal of the day is consumed in the evening and consists of cereal flour, cowpeas, or Bambarra beans, prepared as a dough or porridge, over which soup made with or without meat, is poured. In the mornings a light meal is taken off anything left-over from the previous evening; similarly at mid-day. When working in the farms at the beginning of the season cereal flour is taken mixed with drinking water. The results of a study of the diet of the Tallensi—a tribe around Tongo in Zuarungu Area—in relation to domestic economy, has been dealt with very fully by Dr. M. and Mrs. S. L. Fortes (9).

Recurrent Food Shortage.

262 251 241 It is not surprising that with a precarious rainfall and almost complete dependence upon cereals, crop yields are very variable and recurrent food shortage is a common experience. Soil erosion, and a system of continuous cultivation with inadequate manuring, have reduced the bulk of farmed land to a basic minimum of fertility, except in the immediate vicinity of compounds. The food problem is further complicated by a natural improvidence of the people whereby all crops are consumed in the year they are produced. In good years a surplus of grain is used lavishly in performing religious customs; it is seldom stored against the possibility of a bad season. A rise in the market value of crops at planting time suggests that many people are so improvident as not even to save sufficient seed for planting.

Famine Foods.

● 222 261 A reduced supply of cultivated foods in a poor season is eked out by food from wild sources. There is scarcely a single tree in populated areas which has not some value in this respect; and the seed of an indigenous grass, "Gonongo" (Nankani) (Dactyloctenium aegyptium), is laboriously collected and used as grain.

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Nevertheless, although a shortage of cultivated foods does not necessarily mean starvation, it lowers resistance to disease and saps the energy of the people at the end of the dry season when they need strength to prepare their farms; thus setting up a "vicious circle". It is not the shortage of food in itself which is so arresting, however, as the apathy of the people to the shortage. Ancestor worship causes them to dwell in the past and to think insufficiently of the present and the future. This, too, is probably symptomatic of the unsettled conditions when only the past was certain. It will take some time for the people, the older people who control affairs especially, to adjust themselves to the swift developments going on around them. An unfortunate result is that during the period of adjustment, many of the young men are attracted away from the district to work for wages in Ashanti and the Colony, where there is a big demand for unskilled labour in the mines and in handling the cocoa crop. These young men do not as a rule stay away from home for long at a time, and usually return with a little money; but they do not take readily to farming again, and represent a floating population which is the source of considerable concern to their elders.

Economic Awakening.

An adequate food supply alone does not appear to be sufficient incentive for the adoption of better farming methods; and it is unlikely that changes will come until farming ceases to be regarded mainly as a custom, and becomes a business. There are many signs of an economic awakening, fostered by such factors as a growing desire of the people for imported commodities, and an increase in money consciousness; the completion of an all-weather road to the South; the opening of a gold mine at Nangodi; the developing trade in all classes of livestock with Ashanti and the Colony; the new trade in groundnuts from Bawku for the Kumasi market; together with the work of Government Departments in the improvement of human health, the health of livestock, and not least, the scope of the recently introduced Native Administrations. These are some of the factors helping to bring about a change which can be met only by better farming. Government must anticipate agricultural expansion to be in a position to control its development.

The first problem, obviously, is to ensure a sufficiency of food for everyone in every year. Then, when local requirements have been satisfied, it must be shown how a surplus can be disposed of profitably, to satisfy growing demands. Upon this the Department of Agriculture is working in North Mamprusi, and the results of the last four years' work form the basis of this bulletin.

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Section III.—DISCUSSION OF FINDINGS IN PARTICULAR RELATION TO FOOD SHORTAGE.

262 The remarks made in this section apply more particularly to the Zuarungu and Navrongo Areas than to Kusasi, because, generally speaking, the Kusasis seldom suffer from food shortage and, indeed, they frequently have a surplus for disposal. For this reason the agricultural problem is more acute in the Zuarungu and Navrongo Areas; an adequate and reliable food supply is a prerequisite of all development.

Nature of Food Shortage.

262 Enquiry showed that, as far back as memory goes, a shortage
251 of cultivated foods is experienced in about two years out of every five; the problem, therefore, is by no means a new one. Hungry years follow seasons of poor crops, since practically nothing is stored for more than eight months, *i.e.*, from the time of the main harvest in October and November, until early millet is harvested in the following July. A surplus in a good season is not stored against the possibility of a bad one, but is used lavishly in the performance of religious customs, or it is sold or bartered for livestock. Livestock may be regarded as a kind of bank; the sale of stock is the usual means of obtaining money. In years of food shortage, livestock are sold in order to buy grain from Kusasi, Mamprusi, or Dagomba; and because a number of people are selling at the same time, livestock values fall very considerably in these years.

262 Although bad seasons result in food shortage for many, they
●222 do not necessarily mean starvation, for there are a number of wild sources of food which can be used to eke out a reduced supply of cultivated foods. The most common causes of poor crops are abnormal rains and the ravages of locusts. In good seasons, such as 1932 and 1936, very few people suffer from a shortage: the area of land cultivated is adequate, presumably, and the system of farming is successful. But even in bad seasons it is not everyone who is short. Thus out of the twenty-nine recorded compounds in the Zuarungu Area, ten had sufficient home-grown food remaining from the bad harvest of 1931 (due to shortage of rain after September) until early millet was reaped in 1932. The other nineteen compounds sold livestock and bought grain, and gathered "wild" food. A comparison of statistics from these compounds is given in Table 6 below:—